

*TRAFFIC SPEED REPORT*  
*NO. 66*

*MAY 1959*  
*NO. 10*

*Joint*  
*Highway*  
*Research*  
*Project*

PURDUE UNIVERSITY  
LAFAYETTE INDIANA

*by*

D.F. PETTY



Progress Report

TRAFFIC SPEED REPORT NO. 66.

TO: K. B. Woods, Director  
Joint Highway Research Project

FROM: H. L. Michael, Assistant Director  
Joint Highway Research Project

May 14, 1959

File: 8-3-3  
Project: C-36-100

The attached Traffic Speed Report No. 66 has been prepared by Mr. Donald F. Petty, Research Assistant on our staff, under the direction of Prof. H. L. Michael.

This report presents the analysis and data for the winter season of 1959. The Project has conducted similar studies at the same locations semi-annually for the past twenty years. Copies of this report will be distributed as usual to the Indiana State Police, the Indiana Office of Traffic Safety, and the Bureau of Public Roads. The report is submitted for the record.

Respectfully submitted,

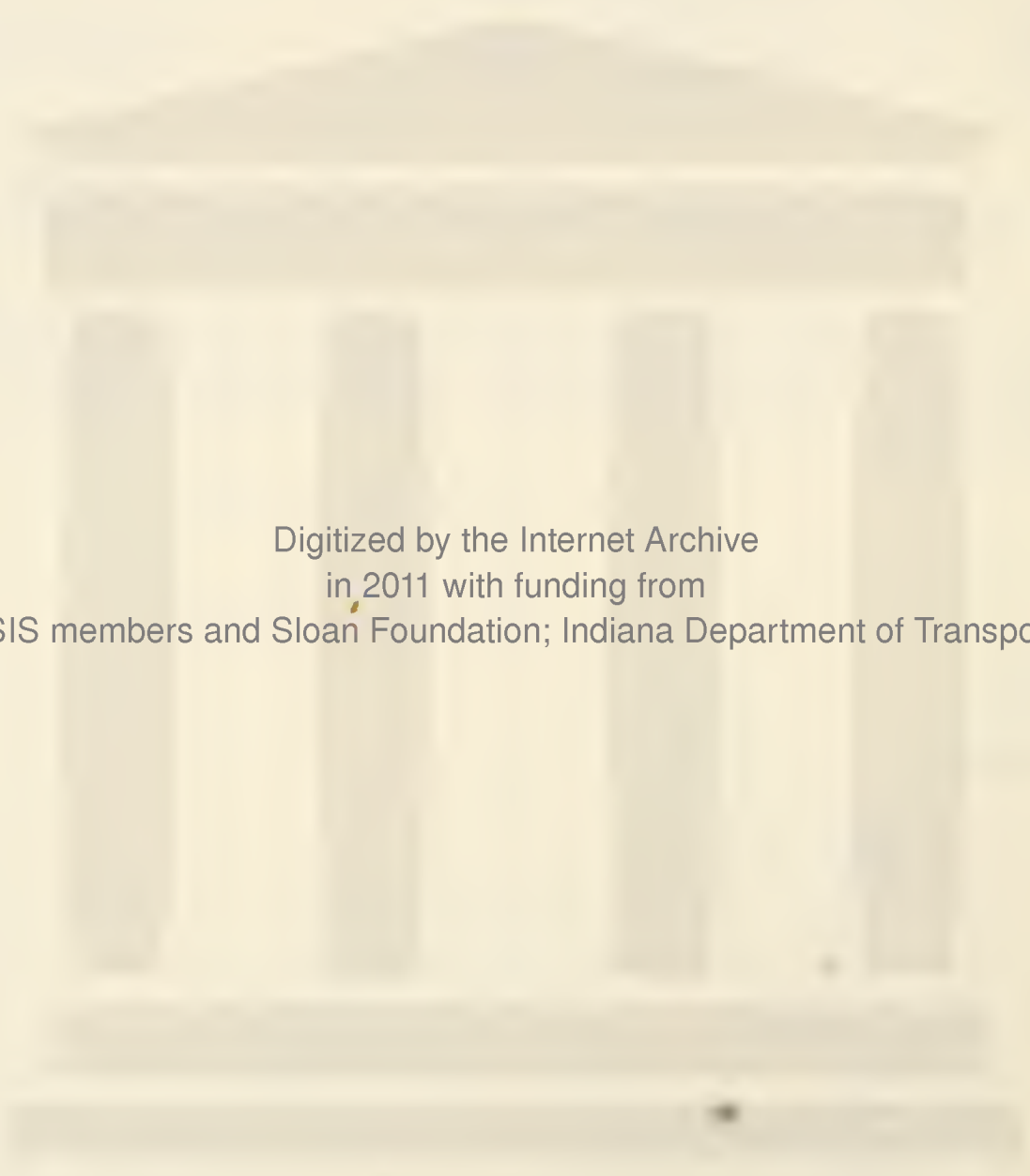
*H. L. Michael*

H. L. Michael, Secretary

HLM:ac

Attachment

cc: J. R. Cooper  
W. L. Dolch  
W. H. Goetz  
J. T. Hallett  
F. F. Havey  
G. A. Hawkins (M. B. Scott)  
G. A. Leonards  
J. F. McLaughlin  
R. D. Miles  
R. E. Mills  
B. H. Petty  
C. E. Vogelgesang  
J. L. Waling  
J. E. Wilson  
E. J. Yoder



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100-100000-100

TRIP TO ALBANY, N.Y. 100

By

Donald F. Foley, Technical Assistant

State Highway Research Project  
Project No: 100-100  
File No: 100-100

Project Number 100  
100-100, Albany

May 14, 1959



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## TRAFFIC SPEED REPORT NO. 66

This report covers spot speed observations made from December, 1958, through March, 1959. The data were collected by the writer. All observations were made of free-moving vehicles on level tangent sections of rural highways. The locations of the observations were as follows:

1. U.S. 52 - 1.0 miles South of S. Jct. S.R. 28 (Dual Lanes)
2. U.S. 52 - 1.0 miles West of Klondike (Dual Lanes)
3. U.S. 52 - 2.2 miles Northwest of Templeton (2 Lane)
4. U.S. 31 - 7.2 miles North of Perrysburg (2 Lane)
5. S.R. 25 - .7 miles South of Americus (2 Lane)
6. U.S. 41 - 1.0 miles North of Boswell (2 Lane)

The speed observations for this study were made with an Electro-Matic Radar Speed Meter. The meter was concealed as part of a rural mailbox which was placed approximately two feet from the edge of the pavement. It was directed along the highway at a small angle with respect to the direction of traffic so that it was not necessary to apply an angle correction to the readings.

Radar equipment will not operate properly if the operating voltage is more than 1/2 volt low or 1 volt high. The voltage, therefore, was checked periodically in the field with a voltmeter and maintained within the desired range. The radar equipment was also maintained in correct calibration by checking the registered speed with a 60 MPH tuning fork.

The observer concealed himself from the traffic as far from the highway as local conditions required. This was possible by using a 150 foot extension cable between the meter reading unit on which the

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readings were checked, and the pick-up unit. It is, therefore, believed that the speeds of the vehicles were not influenced by the equipment or the observer.

A summary of the results of this study as well as the last seven studies is given in Table 1. Indiana state law limits the speed of passenger cars and trucks weighing less than 5,000 pounds to 65 miles per hour. During the period of these studies, the maximum speed limit for trucks weighing more than 5,000 pounds was 45 miles per hour. The General Assembly of Indiana, however, changed this in their last session so that the maximum speed limit for trucks weighing more than 5,000 pounds is now 50 miles per hour on all highways except that on four-lane highways which have a median strip at least 20 feet wide the maximum speed limit is 55 MPH. Very few of the speed limit signs on the highways have been changed as of May 1, 1959 to reflect this new regulation, however. This change in speed limits may be reflected in the next speed studies and should be taken into consideration in the analysis of these future studies.

Truck speeds are shown for three groups: light trucks, heavy trucks and all trucks; also, it is noted in each table whether the road is a two-lane or four-lane type (all 4-lane highways studied had a median greater than 20 feet wide). Since it is impractical to accurately determine the exact weight of each truck, panel and single-wheel pickup types were classed as less than 5,000 pounds. All other types of trucks were classed as weighing over 5,000 pounds.

In order to compare the present and last previous observations at a given location, the results of each study are tabulated in Tables









TABLE I

SUMMARY OF SPOT SPEED OBSERVATIONS  
ON INDIANA HIGHWAYS

(Free-Moving Vehicles on Level, Tangent Sections)

		Passenger Cars				Trucks		
		Ind Mean	Non-Ind Mean	All Mean	All 85 per	Light Mean	Heavy Mean	All Mean
Two-lane Highways	July '55	53.8	55.7	54.5	64.8	46.2	45.5	45.6
	Feb. '56	54.9	58.0	55.9	63.2	47.1	43.2	44.4
	Aug. '56	55.0	56.3	55.5	63.4	50.6	45.5	46.6
	May '57	55.6	59.1	56.9	64.0	50.2	44.8	46.1
	Aug. '57	55.5	56.7	55.9	62.1	51.7	45.8	47.3
	Aug. '58	54.3	56.3	55.0	61.7	53.0	46.3	47.8
	Mar. '59	55.5	57.7	56.1	61.9	50.4	45.4	46.3
Four-lane Highways	July '55	54.5	56.6	55.2	63.7	47.5	43.9	44.8
	Feb. '56	58.1	60.1	58.7	65.7	47.8	45.2	45.8
	Aug. '56	57.4	58.8	58.2	66.8	49.6	46.0	47.4
	May '57	59.9	63.6	61.0	69.0	52.2	46.0	47.9
	Aug. '57	57.5	59.9	58.5	64.8	52.0	46.6	47.6
	Aug. '58	58.0	59.6	58.7	65.0	54.3	49.0	50.0
	Mar. '59	58.2	61.7	59.0	64.9	53.6	47.0	48.4
All Highways	July '55	54.1	56.6	55.2	64.3	46.9	44.7	45.2
	Feb. '56	56.0	58.6	56.8	63.8	47.3	44.0	44.9
	Aug. '56	55.7	57.3	56.4	64.5	50.2	45.6	46.9
	May '57	57.2	60.3	58.3	66.0	50.9	45.2	46.6
	Aug. '57	56.2	58.3	56.9	63.2	51.8	46.1	47.4
	Mar. '59	56.6	59.0	57.2	63.1	51.5	45.9	47.0



# Monthly Statement of the

Board of Directors of the

Month		Year		Total	
Jan	1880	Jan	1880	Jan	1880
Feb	1880	Feb	1880	Feb	1880
Mar	1880	Mar	1880	Mar	1880
Apr	1880	Apr	1880	Apr	1880
May	1880	May	1880	May	1880
Jun	1880	Jun	1880	Jun	1880
Jul	1880	Jul	1880	Jul	1880
Aug	1880	Aug	1880	Aug	1880
Sep	1880	Sep	1880	Sep	1880
Oct	1880	Oct	1880	Oct	1880
Nov	1880	Nov	1880	Nov	1880
Dec	1880	Dec	1880	Dec	1880
Jan	1881	Jan	1881	Jan	1881
Feb	1881	Feb	1881	Feb	1881
Mar	1881	Mar	1881	Mar	1881
Apr	1881	Apr	1881	Apr	1881
May	1881	May	1881	May	1881
Jun	1881	Jun	1881	Jun	1881
Jul	1881	Jul	1881	Jul	1881
Aug	1881	Aug	1881	Aug	1881
Sep	1881	Sep	1881	Sep	1881
Oct	1881	Oct	1881	Oct	1881
Nov	1881	Nov	1881	Nov	1881
Dec	1881	Dec	1881	Dec	1881
Jan	1882	Jan	1882	Jan	1882
Feb	1882	Feb	1882	Feb	1882
Mar	1882	Mar	1882	Mar	1882
Apr	1882	Apr	1882	Apr	1882
May	1882	May	1882	May	1882
Jun	1882	Jun	1882	Jun	1882
Jul	1882	Jul	1882	Jul	1882
Aug	1882	Aug	1882	Aug	1882
Sep	1882	Sep	1882	Sep	1882
Oct	1882	Oct	1882	Oct	1882
Nov	1882	Nov	1882	Nov	1882
Dec	1882	Dec	1882	Dec	1882

## TABLE

## III

Station #1 - 1.0 Mile South of South Jct. S. R. 28 on U. S. 52

Surface 24' N. B. - P. C. C. S. B. - Bit Conc. (Divided Lanes) Weather Sunny & Clear Cloudy & Dry  
This Observation Last Previous Observation (Speed Report No. )

Date Feb. 25, 59, March 4, 59

Time 2:00 - 4:15 P.M. 2:00 - 3:45 P.M.

[illegible]



TABLE III SPEED DATA

Station #2 - 1 Mile West of Klondike on U. S. 52

Surface 4 Lane Divided. 24' Portland Cement Concrete Weather Cloudy & Dry  
 This Observation Last Previous Observation (Speed Report No. )  
 Date December 30, 1958 Date August 12, 1958  
 Time 1:30 P.M. - 4:05 P.M. Time 2:40 P.M. - 5:51 P.M.

PASSENGER CARS				TRUCKS						BUSSES							
All				Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more		All			
Last Present				Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present		
All Vehicles	No. of Vehicles Obs.	376	440	241	57.4	57.1	59.2	61.8	120	126	109	26	55.9	53.7	100	78	--
	Ave. Speed (m.p.h.)	58.0	58.4	57.4	97.1	95.3	98.2	98.3	98.3	84.3	73.4	100.0	80.6	80.0	50.1	46.6	--
	45 m.p.h.	97.6	96.0	97.1	86.7	87.0	94.1	97.4	97.4	64.3	37.6	73.1	71.0	62.0	24.4	--	--
	50 m.p.h.	89.4	90.0	86.7	69.3	67.8	78.5	82.5	82.5	29.4	18.3	46.2	41.9	25.0	9.0	--	--
	55 m.p.h.	72.6	71.8	69.3	41.9	35.3	49.6	52.5	52.5	11.1	10.1	30.8	32.2	6.0	1.3	--	--
	60 m.p.h.	44.7	40.0	11.6	12.8	12.8	17.0	20.8	20.8	4.0	4.6	19.2	12.9	0	1.3	--	--
	65 m.p.h.	13.6	15.0	1.7	1.9	1.9	8.2	9.2	9.2	0.8	.9	3.8	3.2	0	--	--	--
BOUND	70 m.p.h.	4.0	3.9	0.4	.6	.6	1.5	2.5	2.5	0.8	--	3.8	--	0	--	--	--
	75 m.p.h.	0.8	1.1	1.1	1.1	1.1	1.5	2.5	2.5	0.8	--	3.8	--	0	--	--	--
	No. of Vehicles Obs.	199	203	121	158	158	78	45	45	52	46	9	18	43	28	--	--
	Ave. Speed (m.p.h.)	57.8	59.0	57.1	58.3	58.3	59.0	61.6	61.6	48.4	50.0	52.4	53.2	47.6	48.0	--	--
	Max. Speed (m.p.h.)	--	80	76	77	77	78	80	80	--	71	64	71	60	56	--	--
	State or Type	--	0.5	--	--	--	--	--	--	--	5000	--	--	--	--	--	--
	Min. Speed (m.p.h.)	--	36	36	36	36	41	44	44	--	34	45	34	29	41	--	--
BOUND	State or Type	--	Ind	--	--	--	--	--	--	--	5000	--	--	--	--	--	--
	No. of Vehicles Obs.	190	237	120	162	162	57	75	75	74	63	17	13	57	50	--	--
	Ave. Speed (m.p.h.)	58.3	58.0	57.7	56.0	56.0	59.5	62.1	62.1	53.3	47.6	57.7	54.5	52.0	45.8	--	--
	Max. Speed (m.p.h.)	--	79	73	78	78	74	79	79	--	68	77	68	63	57	--	--
	State or Type	--	0.5	--	--	--	--	--	--	--	5000	--	--	--	--	--	--
	Min. Speed (m.p.h.)	--	38	37	38	38	42	39	39	--	29	45	37	36	29	--	--
	State or Type	--	Ind	--	--	--	--	--	--	--	5000	--	--	--	--	--	--





## SPEED DATA

Station #3 -

	Surface	2 Lane
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Weather Clear, Sunny, Good

This Observation

Date January 8, 1959

Time 2:45 - 4:30 P.M.

[illegible]





TABLE V SPEED DATA

Station #4 - 8.0 Miles North of Perryburg on U. S. 31

Surface 2 Lane 22' Bituminous

Weather Cloudy & Dry

This Observation

Last Previous Observation (Speed Report No. )

Date March 30, 1959

Date August 5, 1958

Time 12:35 P.M. - 3:00 P.M.

Time 12:10 P.M. - 3:04 P.M.

		PASSENGER CARS						TRUCKS						BUSES							
		All			Indiana			Non-Indiana			All			Less than 5000 pounds			5000 pounds or more			All	
		Last	Present	Obs.	Last	Present	Obs.	Last	Present	Obs.	Last	Present	Obs.	Last	Present	Obs.	Last	Present	Obs.	Last	Present
All Vehicles	No. of Vehicles Obs.	380	306		296	238		84	68		119	83		37	26		82	57			
	Ave. Speed (m.p.h.)	54.4	56.0		53.8	55.3		56.3	58.4		48.6	47.9		52.5	50.6		46.9	46.6			
	Max. Speed (m.p.h.)	90.0	93.8		88.9	92.4		94.0	98.5		70.6	66.3		83.8	80.8		64.6	59.7			
	Min. Speed (m.p.h.)	76.3	82.4		73.6	79.4		85.7	92.7		42.9	45.8		67.6	65.4		31.7	36.8			
	State or Type	49.5	60.1		45.3	57.6		64.3	69.1		20.2	13.3		35.1	26.9		13.4	7.0			
	or Exceeding	25.8	32.7		22.6	30.7		36.9	39.70		7.6	6.0		18.9	11.5		2.4	3.5			
	% Equaling	7.9	9.8		8.1	8.4		7.1	14.7		0.8	0		0	0		1.2	0			
BOUND	Ave. Speed (m.p.h.)	2.4	4.3		2.7	3.8		1.2	5.9		0	0		0	0		0	0			
	Max. Speed (m.p.h.)	0.8	2.0		1.0	1.7		0	2.9		0	0		0	0		0	0			
	Min. Speed (m.p.h.)	197	167		161	128		36	39		51	43		17	11		34	32			
	State or Type	54.8	57.2		54.2	57.1		57.3	57.6		49.5	48.8		54.1	50.7		47.2	48.2			
	or Exceeding	--	80--		84	76		70	80		--	63--		63	62		63	63			
	% Equaling	--	Non-Ind.		--	--		--	--		--	5000+		--	--		--	--			
	State or Type	--	40		32	40		41	40		--	36		40	42		27	36			
BOUND	Ave. Speed (m.p.h.)	183	139		135	110		48	29		68	40		20	15		48	25			
	Max. Speed (m.p.h.)	53.9	54.2		53.3	53.3		55.6	57.7		47.9	46.9		51.1	50.5		46.6	44.7			
	Min. Speed (m.p.h.)	--	77		90	65		68	77		--	62--		64	62		69	59			
	State or Type	--	Non-Ind.		--	--		--	--		--	5000+		--	--		--	--			
	or Exceeding	--	34		32	34		38	48		--	36		38	38		30	36			
	% Equaling	--	Ind.		--	--		--	--		--	5000+		--	--		--	--			
	State or Type	--	Ind.		--	--		--	--		--	5000+		--	--		--	--			



## SPEED DATA

1 Mile South of Americus on S. R. 25

Surface 2 Lane 22' Bituminous Weather Sunny, Clear, & Dry  
This Observation Last Previous Observation (Speed Report No. )  
Date March 18, 1959 Date August 12, 1958  
Time 2:00 - 4:15 P.M. Time 10:50 A.M. - 1:34 P.M.

[illegible]





TABLE VII SPEED DATA

Station #6- 1.0 Mile North of Boswell on U. S. 41

Surface 2 Lane 22' Bituminous

Weather Cloudy &amp; Dry

This Observation

Last Previous Observation (Speed Report No. )

Date March 31, 1959

Date

Time 9:30 A.M. - 12:30 P.M.

Time

PASSENGER CARS				TRUCKS				BUSES							
All				Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more		All	
OBSERVATION				Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
All Vehicles	No. of Vehicles Obs.	---	311	---	128	---	183	---	99	---	23	---	76	---	---
	Ave. Speed (m.p.h.)	---	56.5	---	56.2	---	56.6	---	45.1	---	48.0	---	44.2	---	---
	Max. Speed (m.p.h.)	---	96.0	---	96.3	---	96.3	---	52.5	---	69.6	---	47.4	---	---
	State or Type	---	86.5	---	79.7	---	91.3	---	27.3	---	47.8	---	21.1	---	---
	Min. Speed (m.p.h.)	---	66.2	---	63.3	---	68.3	---	8.1	---	21.7	---	4.0	---	---
	State or Type	---	33.4	---	34.4	---	32.8	---	1.0	---	4.4	---	0	---	---
	Ave. Speed (m.p.h.)	---	10.6	---	11.7	---	9.8	---	0	---	0	---	0	---	---
	Max. Speed (m.p.h.)	---	2.9	---	5.5	---	1.1	---	0	---	0	---	0	---	---
BOUND	No. of Vehicles Obs.	---	158	---	64	---	94	---	52	---	9	---	43	---	---
	Ave. Speed (m.p.h.)	---	57.1	---	57.5	---	57.0	---	44.0	---	45.7	---	44.1	---	---
	Max. Speed (m.p.h.)	---	78	---	78	---	70	---	55	---	51	---	55	---	---
	State or Type	---	Ind.	---	Ind.	---	---	---	over 5000	---	---	---	---	---	---
	Min. Speed (m.p.h.)	---	42	---	42	---	42	---	36	---	36	---	36	---	---
	State or Type	---	Ind. & Non-Ind.	---	---	---	---	---	Less & over 5000	---	---	---	---	---	---
	No. of Vehicles Obs.	---	153	---	64	---	89	---	47	---	14	---	33	---	---
	Ave. Speed (m.p.h.)	---	55.6	---	55.0	---	56.1	---	45.9	---	49.6	---	44.3	---	---
BOUND	Max. Speed (m.p.h.)	---	74	---	74	---	71	---	64	---	64	---	58	---	---
	State or Type	---	Ind.	---	---	---	---	---	Less & over 5000	---	---	---	---	---	---
	Min. Speed (m.p.h.)	---	34	---	34	---	38	---	38	---	32	---	30	---	---
	State or Type	---	Ind.	---	---	---	---	---	over 5000	---	---	---	---	---	---



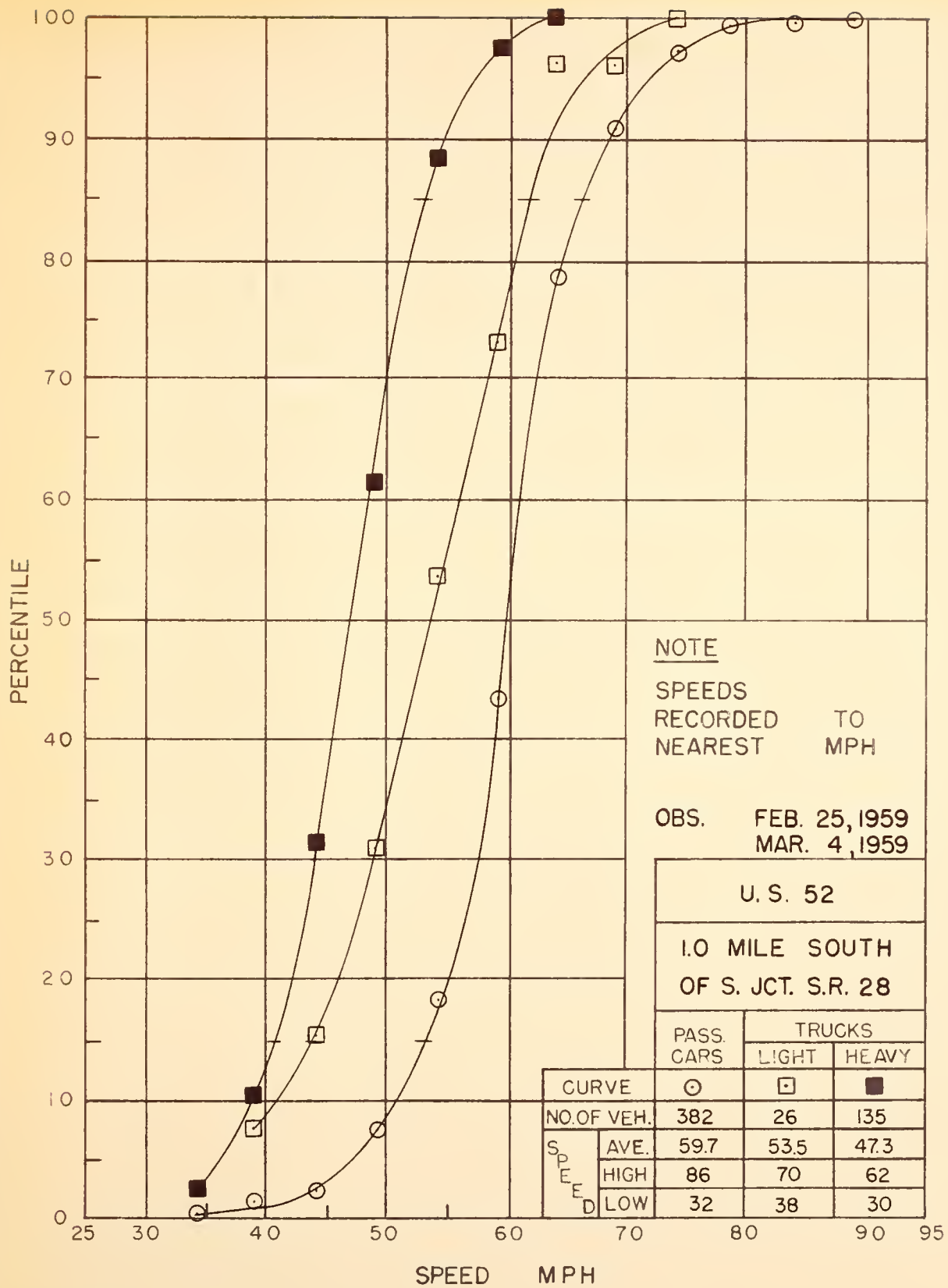


FIGURE 1





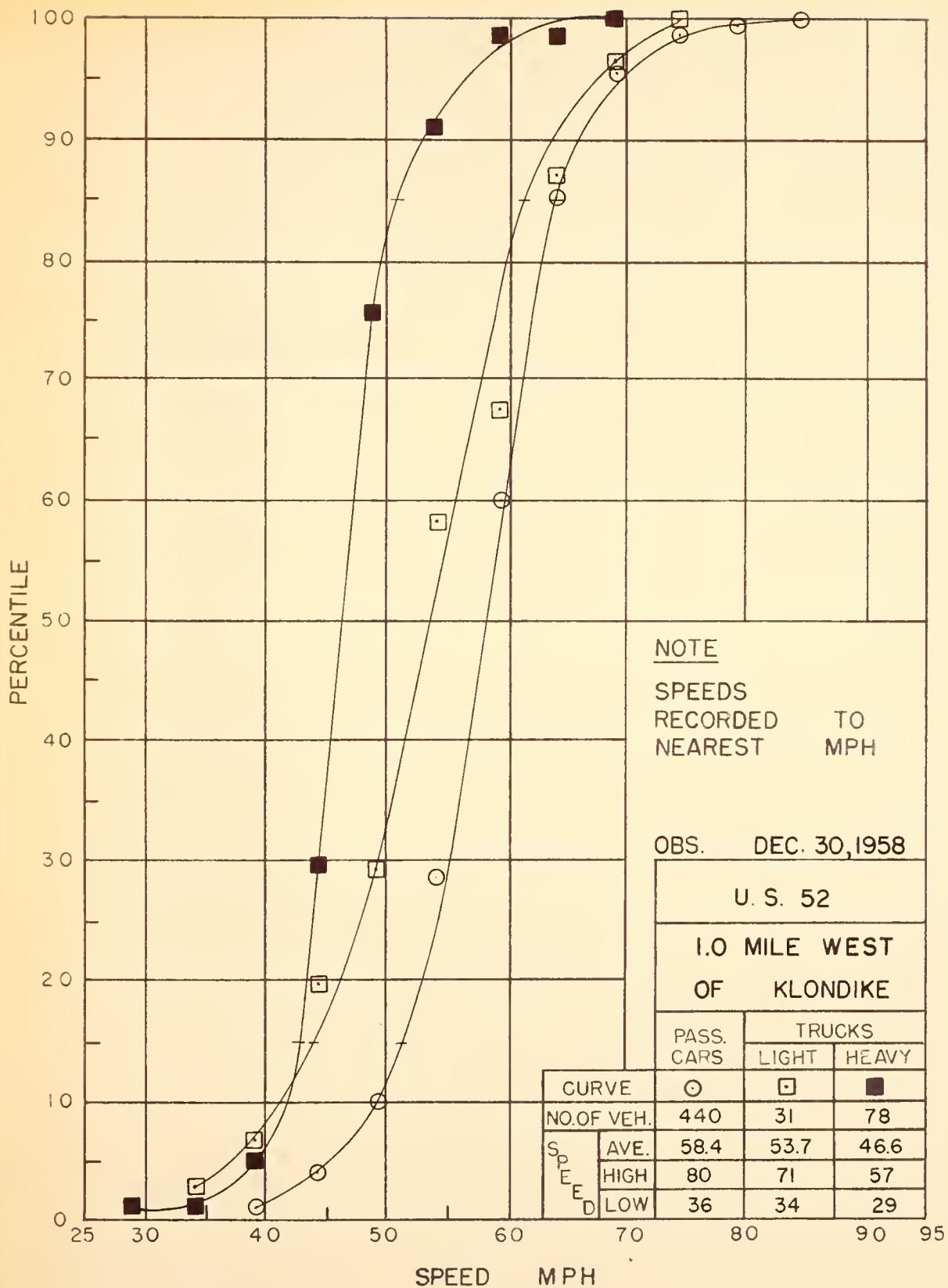


FIGURE 2







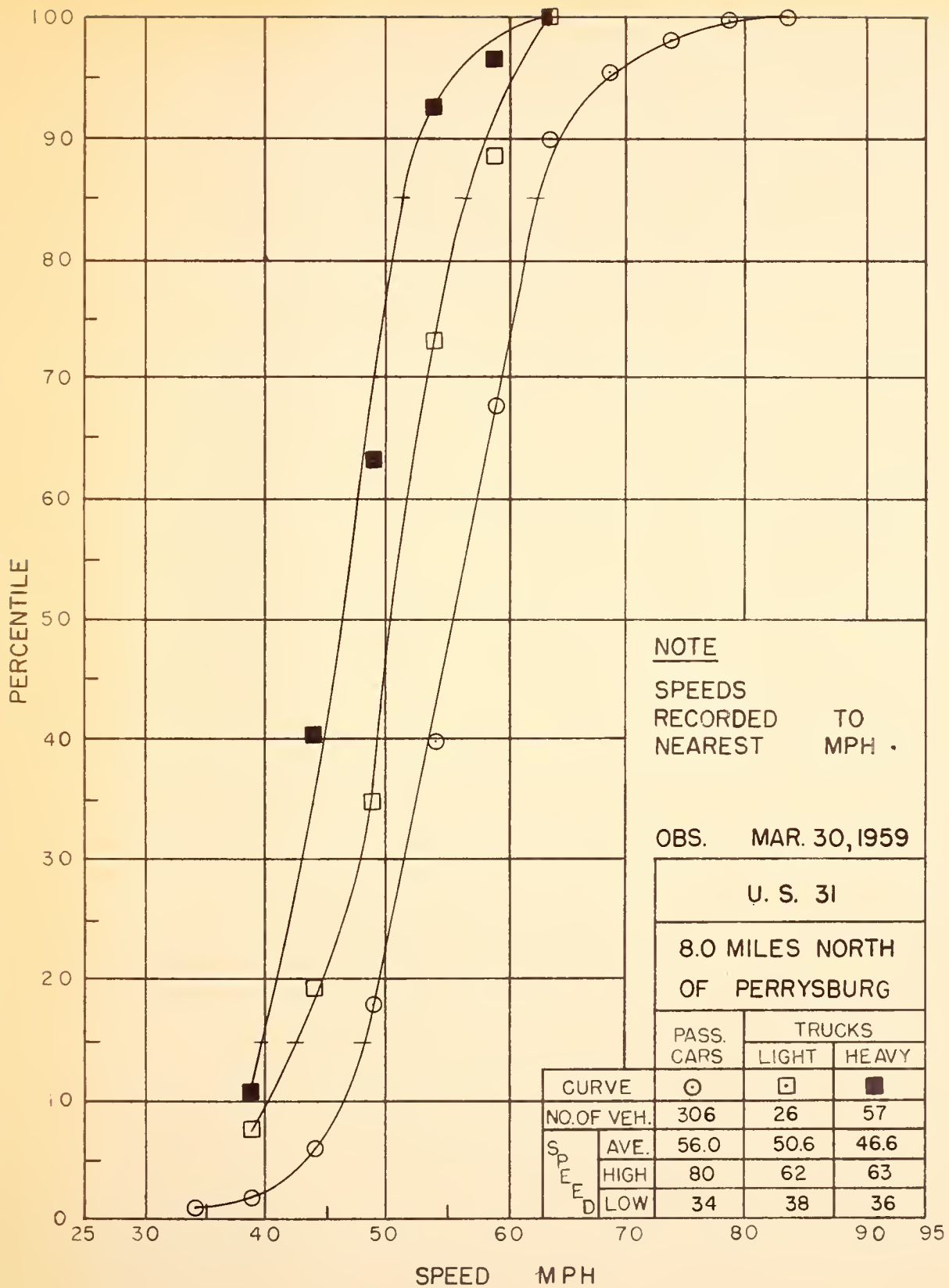


FIGURE 4





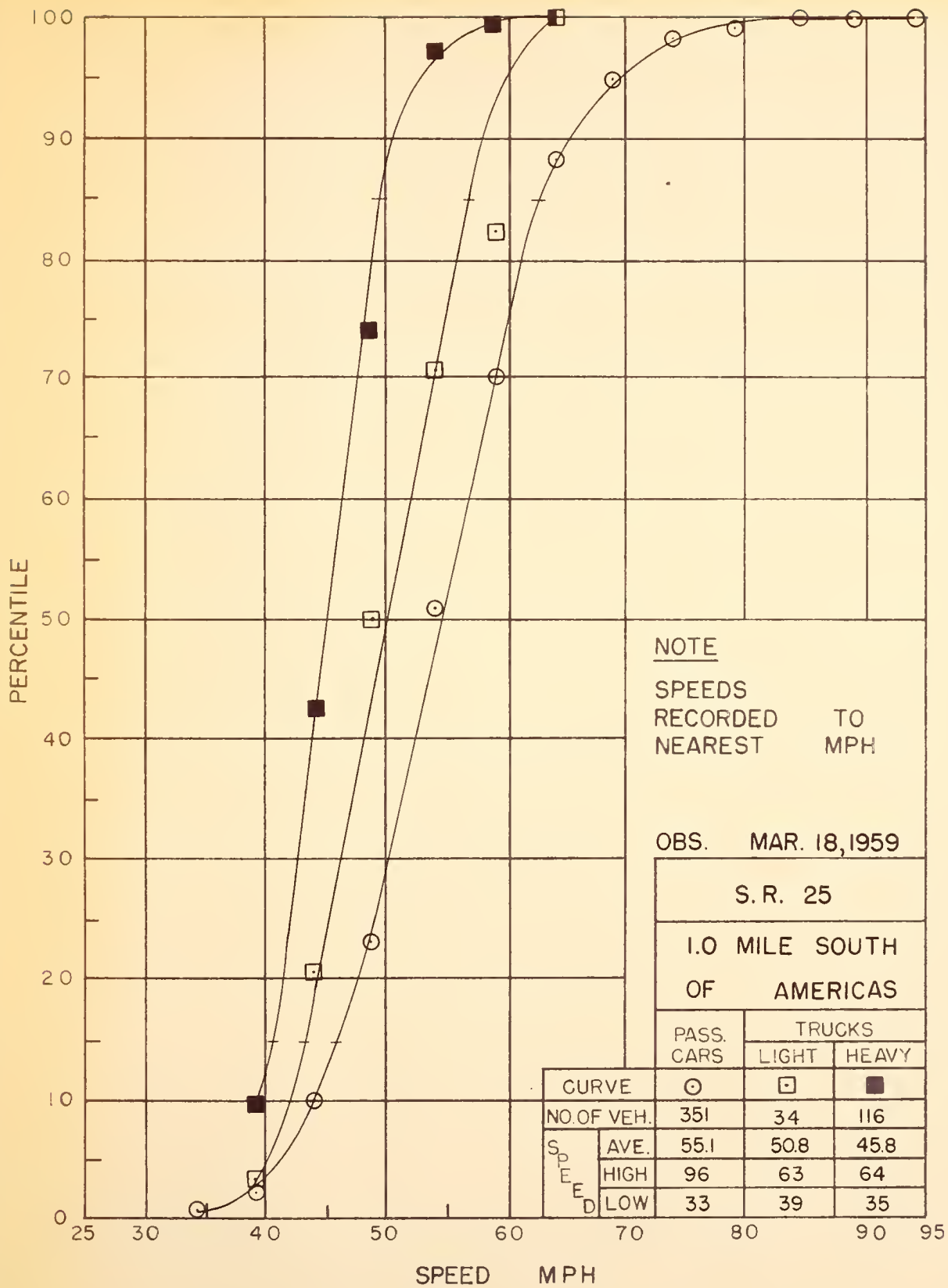


FIGURE 5



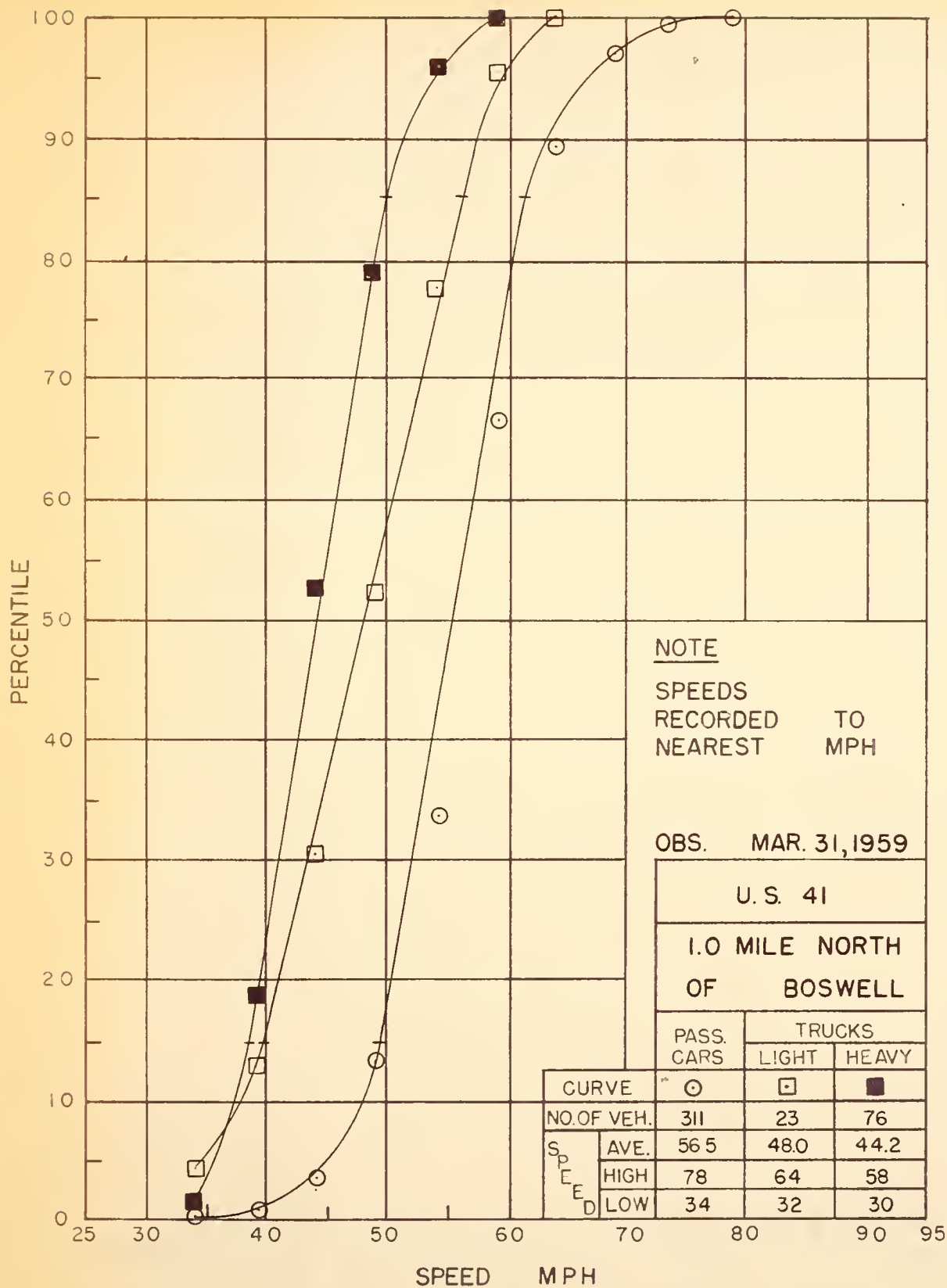


FIGURE 6



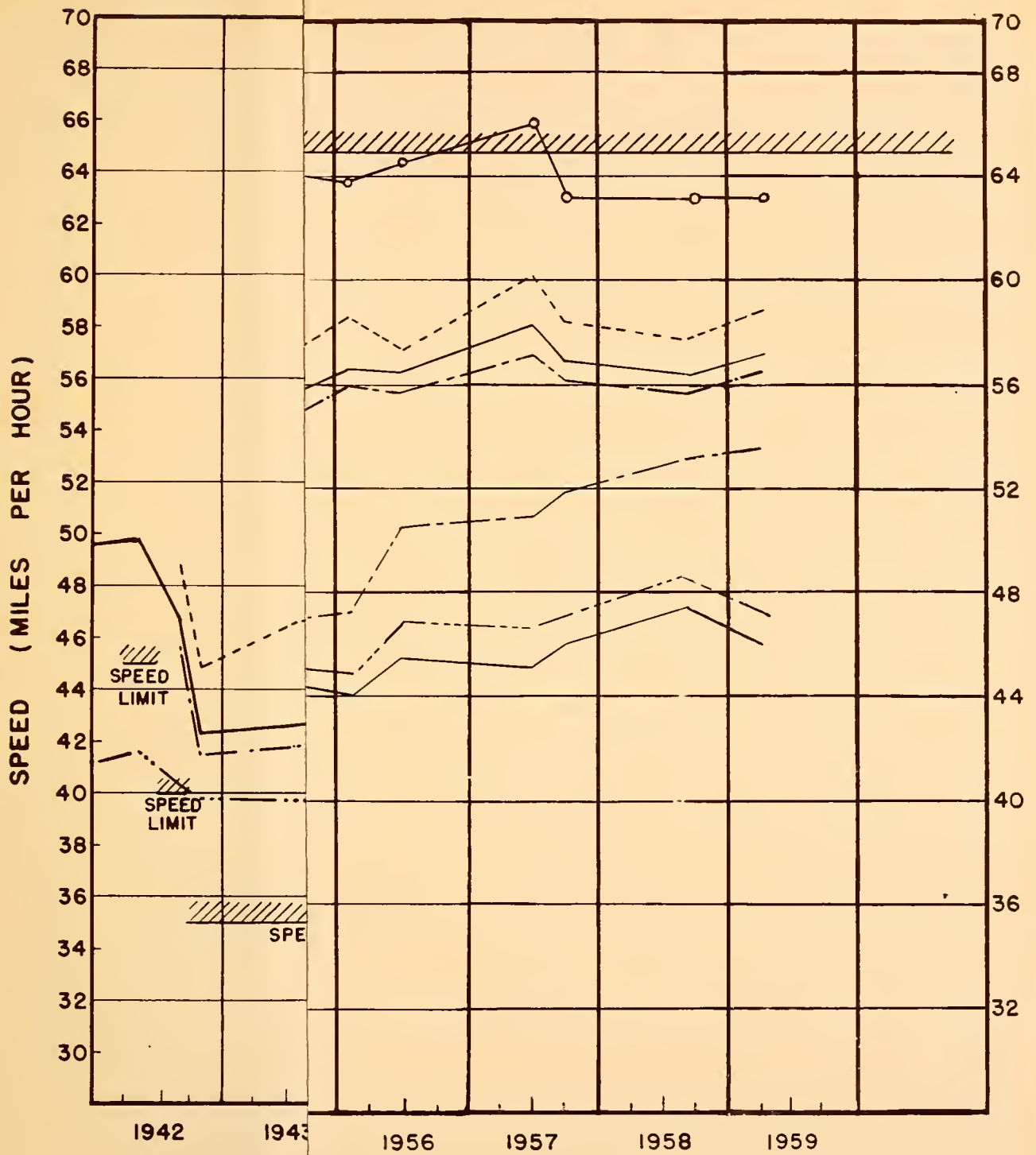
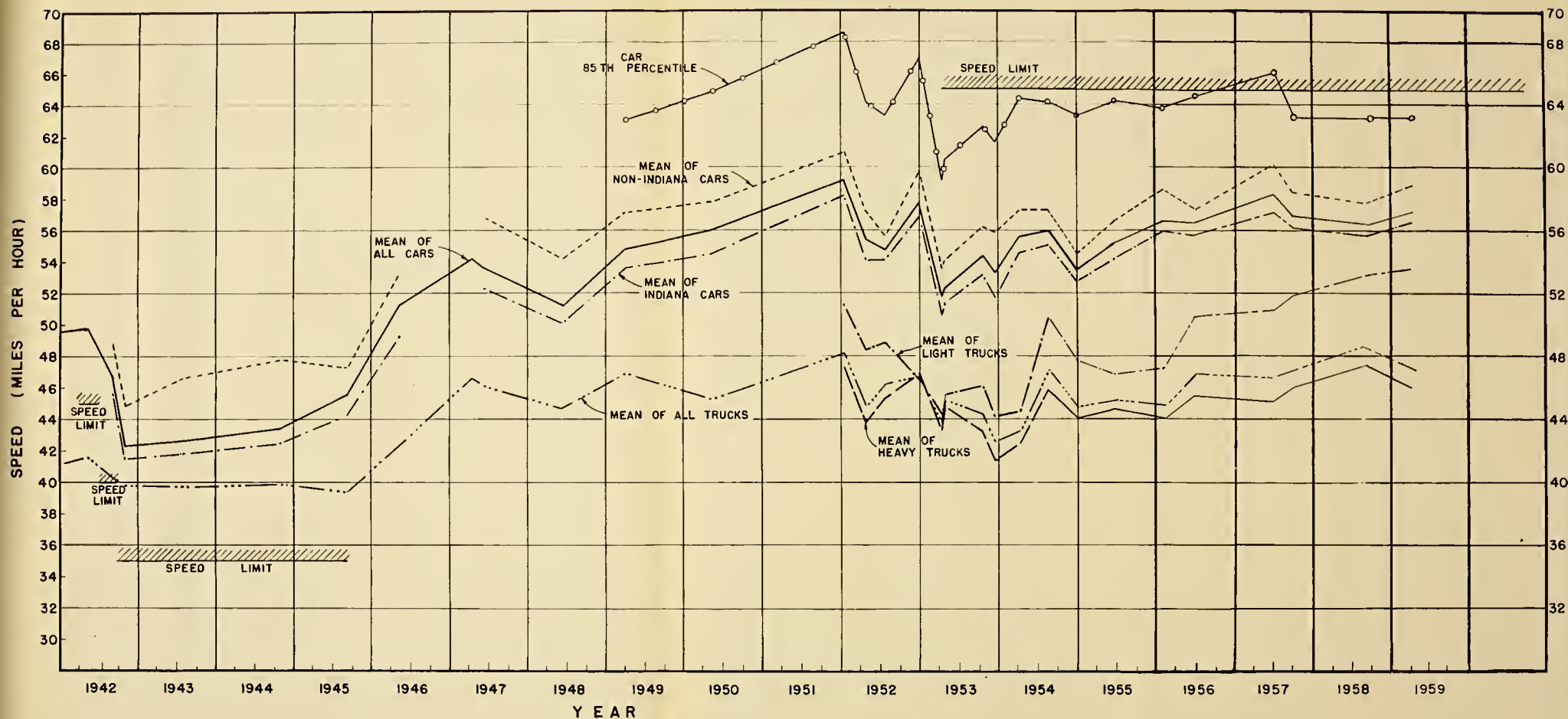


FIG. 7







INDIANA RURAL SPEED TRENDS 1942—1960

FIG. 7



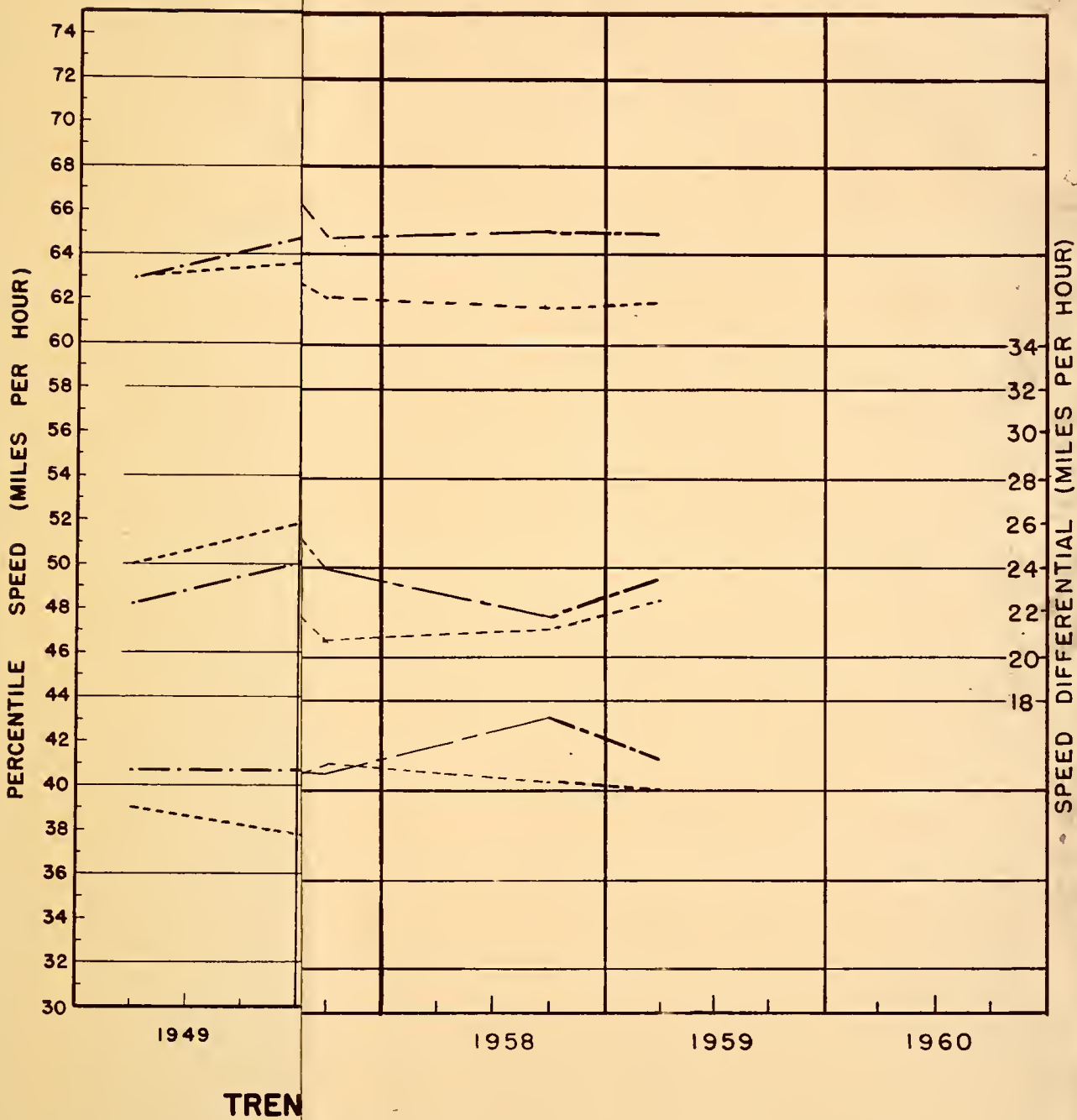
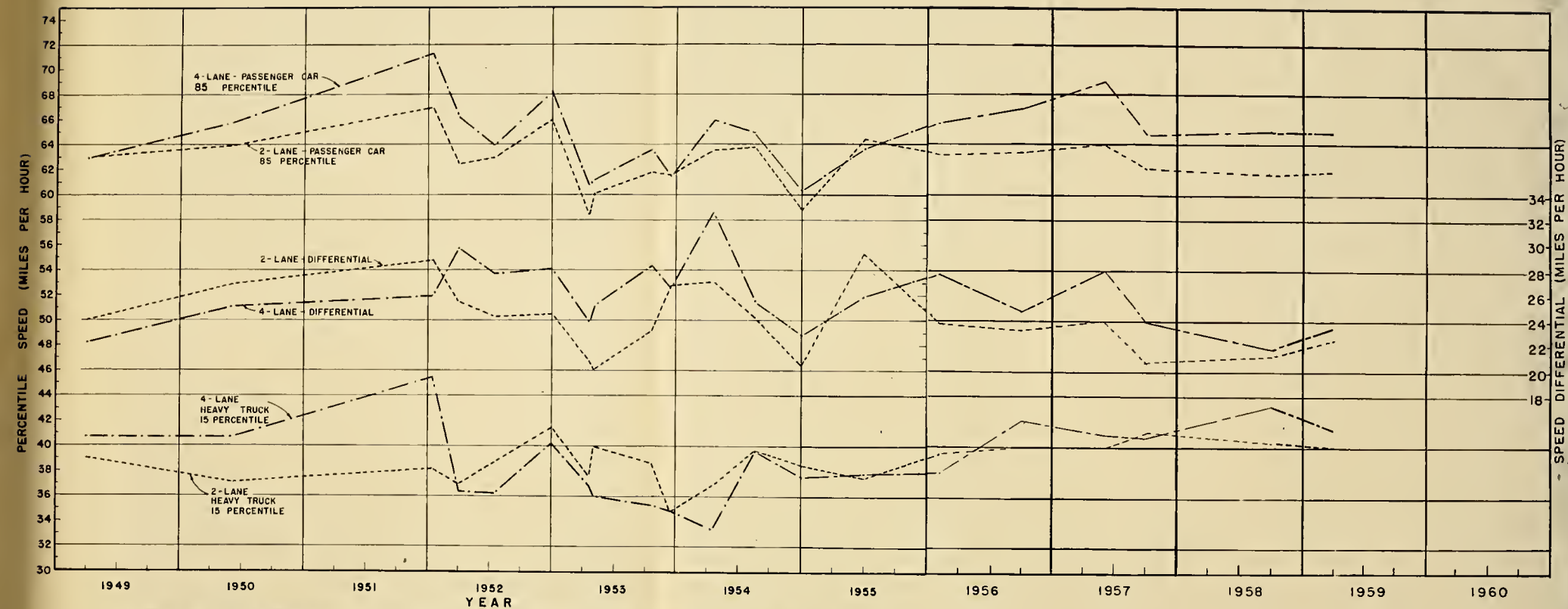


FIG. 8





TRENDS IN PERCENTILE SPEEDS AND SPEED DIFFERENTIAL 1949—1960

FIG. 8







